

Amendment and Response

Applicant: Thomas C. Anthony et al.

Serial No.: 10/601,895

Filed: June 23, 2003

Docket No.: 10014272-1

Title: MAGNETIC MEMORY DEVICE

REMARKS

The following remarks are made in response to the Office Action mailed July 9, 2004, in which claims 1-23 were rejected. With this Response, claims 1, 15, 20 and 23 are amended, and claim 18 is canceled. Claims 1-17 and 19-23 remain pending in the application and are presented for reconsideration and allowance.

Objection to the Specification

The specification has been objected to as failing to provide proper antecedent basis for the claimed subject matter "having free magnetic poles" in claims 1 and 20.

With this Response, the specification has been amended to include the term "free magnetic poles" and thereby provide antecedent basis for the claimed subject matter. No new subject matter has been added to the application, as the term "free magnetic poles" has simply been inserted into the specification with reference to the already present description of the alterable orientation of magnetization of sense layer 132. Accordingly, withdrawal of the objection to the specification is respectfully requested.

Claim Rejections under 35 U.S.C. § 102

Claims 1-10 and 13-23 stand rejected under 35 U.S.C. §102(e) as being anticipated by Saito et al. (U.S. Patent No. 6,556,473).

Regarding each of independent claims 1, 15, 20 and 23, Saito et al. is alleged to disclose, respectively, a magnetic memory array (claim 1), a method of reducing demagnetization fields in a memory device (claim 15), a memory chip (claim 20), and an electronic device (claim 23), including a plurality of bit cells [13's], each bit cell [13] including at least one magnetic layer (Fig. 2B [21-25]) having free magnetic poles ([23], col. 7, line 45 and col. 2, lines 65-67) with a corresponding demagnetization field; and a magnetic flux absorbing layer (Fig. 2B [18], col. 4, lines 6-7 and 46-49) disposed between at least two of the plurality of bit cells (col. 8, lines 26-32).

Independent claims 1, 15, 20 and 23 have each been amended to state that the magnetic flux absorbing layer has an isotropic response to magnetic fields. Dependent claim 18 has been

Amendment and Response

Applicant: Thomas C. Anthony et al.

Serial No.: 10/601,895

Filed: June 23, 2003

Docket No.: 10014272-1

Title: MAGNETIC MEMORY DEVICE

canceled, as the subject matter of claim 18 is now presented in amended claim 15.

Although the Examiner alleges (regarding now-canceled claim 18) that Saito et al. discloses depositing a ferromagnetic film having an isotropic response to the magnetic fields (citing col. 10, lines 59-67 of Saito et al.), the Applicants respectfully submit that the Examiner's interpretation of Saito et al. is incorrect. The cited portion of Saito et al. relates to the magnetic materials for pinned magnetic layers 21, 25 and magnetic recording layer 23 of tunnel junction 13, **not** magnetic film 18. Further, the cited portion of Saito et al. states that the magnetic layers have a "unidirectional anisotropy" (that is, they are **not isotropic**). Thus, the anisotropic properties of the magnetic layers in the cited portion of Saito et al. are in direct contrast to the **isotropic** properties of the magnetic flux absorbing layers of the present application. Finally, in its discussion of magnetic films 17, 18, Saito et al. makes no statements regarding the response of films 17, 18 to magnetic fields of varying orientations. Accordingly, it cannot be said that Saito et al. discloses or suggests the films 17, 18 have an isotropic response to magnetic fields.

For at least these reasons, Saito et al. fails to disclose the subject matter of independent claims 1, 15, 20 and 23. Therefore, withdrawal of the rejection of claims 1, 15, 20 and 23 under 35 U.S.C. §102(e) as being anticipated by Saito et al. (U.S. Patent No. 6,556,473) is respectfully requested.

Dependent claims 2-10, 16, 17, 19, 21 and 22 depend, either directly or indirectly, from independent claims 1, 15, 20 and 23. Because independent claims 1, 15, 20 and 23 are not anticipated by Saito et al. for at least the reasons discussed above, dependent claims 2-10, 16, 17, 19, 21 and 22 are also not anticipated by Saito et al. for at least those same reasons. Therefore, withdrawal of the rejection of dependent claims 2-10, 16, 17, 19, 21 and 22 under 35 U.S.C. §102(e) as being anticipated by Saito et al. (U.S. Patent No. 6,556,473) is respectfully requested.

Claim Rejections under 35 U.S.C. § 103

Claim 11 stands rejected under 35 U.S.C §103(a) as being unpatentable over Saito et al. (U.S. Patent No. 6,556,473) in view of Saito et al. (U.S. Patent No. 6,590,803).

Amendment and Response

Applicant: Thomas C. Anthony et al.

Serial No.: 10/601,895

Filed: June 23, 2003

Docket No.: 10014272-1

Title: MAGNETIC MEMORY DEVICE

Claim 11 depends directly from independent claim 1, which is allowable for at least the reasons discussed above. Accordingly, claim 11 is also allowable, and withdrawal of the rejection under 35 U.S.C §103(a) is respectfully requested.

Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (U.S. Patent No. 6,556,473) in view of Gill et al. (U.S. Patent No. 6,108,177)

Claim 12 depends directly from independent claim 1, which is allowable for at least the reasons discussed above. Accordingly, claim 12 is also allowable, and withdrawal of the rejection under 35 U.S.C §103(a) is respectfully requested.

CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that amended independent claims 1, 15, 20 and 23 and the claims depending therefrom are in condition for allowance. Reconsideration and withdrawal of the rejections and allowance of claims 1-17 and 19-23 is respectfully requested.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Amendment and Response

Applicant: Thomas C. Anthony et al.

Serial No.: 10/601,895

Filed: June 23, 2003

Docket No.: 10014272-1

Title: MAGNETIC MEMORY DEVICE

Any inquiry regarding this Amendment and Response should be directed to either Phil Lyren at Telephone No. (281) 514-8236, Facsimile No. (281) 514-8332 or Matthew B. McNutt at Telephone No. (512) 231-0531, Facsimile No. (512) 231-0540. In addition, all correspondence should continue to be directed to the following address:

Hewlett-Packard Company
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

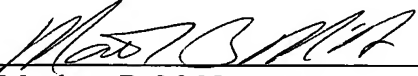
Respectfully submitted,

Thomas C. Anthony et al.,

By their attorneys,

DICKE, BILLIG & CZAJA, PLLC
Fifth Street Towers, Suite 2250
100 South Fifth Street
Minneapolis, MN 55402
Telephone: (612) 573-2000
Facsimile: (612) 573-2005

Date: Sept 22, 2004
MBM:dmd


Matthew B. McNutt
Reg. No. 39,766

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 22nd day of September, 2004.

By 
Name: Matthew B. McNutt